

PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE TOTAL RECONSTRUCTION OF THE EXISTING TRAFFIC CONTROL SIGNAL AT THE INTERSECTION OF MD 150 AND TERRACE ROAD/MARIE AVENUE IN BALTIMORE COUNTY. MD 150 IS ASSUMED TO RUN IN AN EAST-WEST DIRECTION.

INTERSECTION OPERATION

THE INTERSECTION OPERATES IN A NEMA FOUR-PHASE, FULL-TRAFFIC-ACTUATED MODE.

CONTROLLER REQUIREMENTS

INSTALL A FULL-TRAFFIC-ACTUATED, EIGHT-PHASE CONTROLLER WITH SYSTEM PACKAGE AND VIDEO DETECTION INTERFACE EQUIPMENT HOUSED IN A NEMA SIZE "6" BASE MOUNTED CABINET.

PHASE CHART

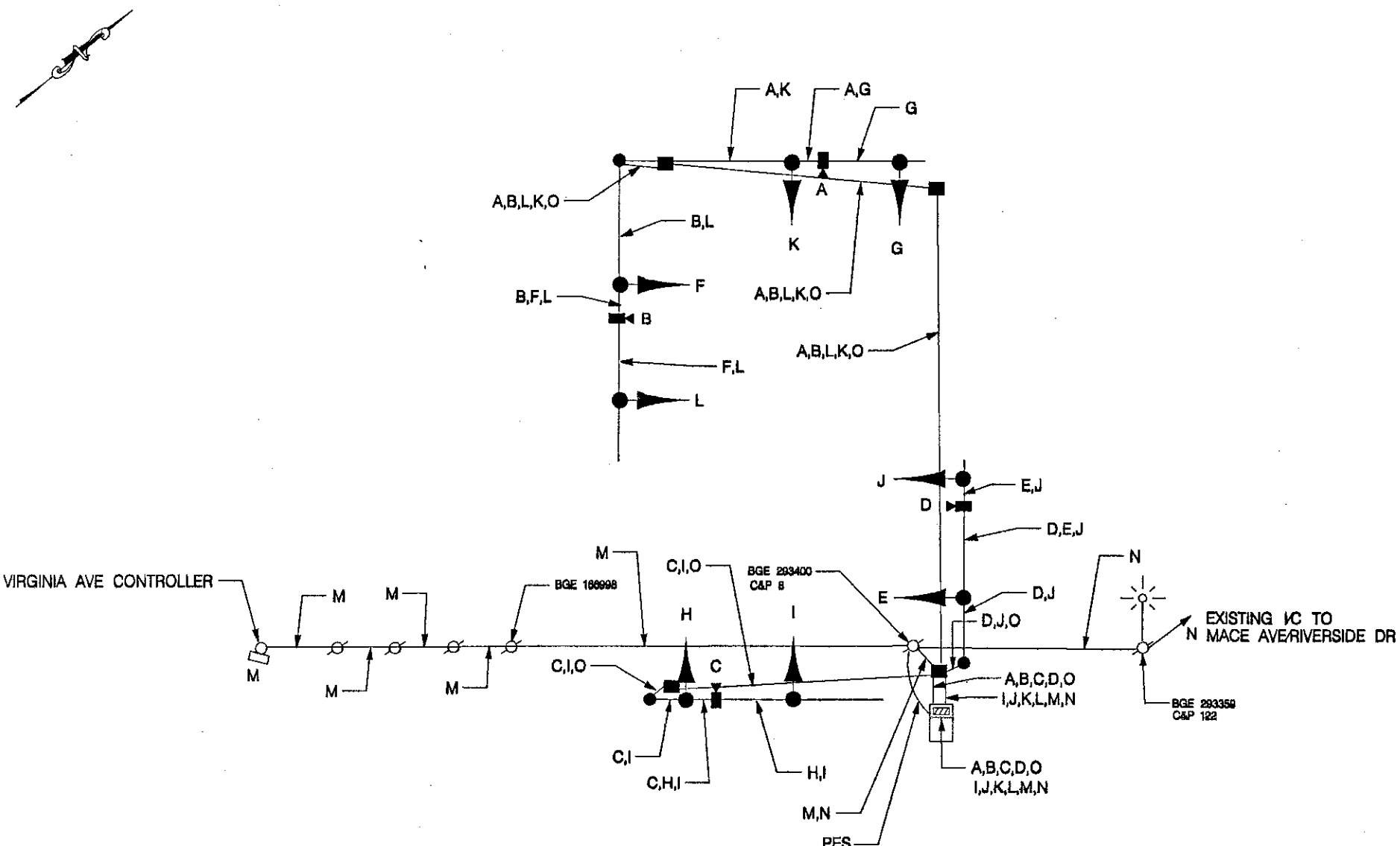
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| PHASE 2 & 6        | G  | G  | G  | G  | R  | R  | R  | R  |
| 2 & 6 CHANGE       | Y  | Y  | Y  | Y  | R  | R  | R  | R  |
| PHASE 4 & 8        | R  | R  | R  | R  | G  | G  | G  | G  |
| 4 & 8 CHANGE       | R  | R  | R  | R  | Y  | Y  | Y  | Y  |
| FLASHING OPERATION | FL/Y   | FL/Y   | FL/Y   | FL/Y   | FL/R   | FL/R   | FL/R   | FL/R   |

EQUIPMENT LIST "B"

B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY CONTRACTOR.

| ITEM NO. | QUANTITY | DESCRIPTION   |
|----------|----------|---|
| 1001     | 3 EA     | MAINTENANCE OF TRAFFIC  |
| 2001     | 8 CY     | CLASS 2 EXCAVATION  |
| 2002     | 4 CY     | TEST PIT EXCAVATION   |
| 5006     | 60 LF    | FURNISH AND INSTALL 24 IN. WHITE HEAT APPLIED PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKING                        |
| 5002     | 20 LF    | FURNISH AND INSTALL 5 IN. YELLOW HEAT APPLIED PERMANENT THERMOPLASTIC PAVEMENT MARKING                                  |
| 6001     | 40 LF    | FURNISH AND INSTALL DEPRESSED CURB AND GUTTER   |
| 6002     | 52 LF    | FURNISH AND INSTALL STANDARD TYPE A COMBINATION CURB AND GUTTER 12 IN. GUTTER PAN, 8 IN. DEPTH                          |
| 6004     | 375 SF   | FURNISH AND INSTALL 4 IN. CONCRETE SIDEWALK   |
| 8001     | 11 CY    | FURNISH AND INSTALL CONCRETE FOUNDATION   |
| 8006     | 1 EA     | INSTALL CONDUIT BEND IN EXISTING FOUNDATION   |
| 8007     | 2 EA     | FURNISH AND INSTALL CONTROL CABLE, 100 FT. VIDEO DETECTION  |
| 8008     | 2 EA     | FURNISH AND INSTALL CONTROL CABLE, 200 FT. VIDEO DETECTION  |
| 8014     | 2 EA     | FURNISH AND INSTALL 16.5 FT. MAST ARM POLE WITH 15 FT. "T" DIMENSION AND 50 FT. MAST ARM                                |
| 8019     | LS       | REMOVE AND DISPOSE OF MATERIAL AND EQUIPMENT PER ASSIGNMENT   |
| 8025     | 75 LF    | DISCONNECT, PULL-BACK AND RE-ROUTE CABLE  |
| 8031     | 220 LF   | FURNISH AND INSTALL NO. 6 A.W.G. STRANDED BARE COPPER GROUND WIRE   |
| 8034     | 1 EA     | FURNISH AND INSTALL 3 IN. ELECTRICAL CONDUIT-GALVANIZED RISER   |
| 8035     | 1 EA     | FURNISH AND INSTALL 3 IN. WEATHER HEAD  |
| 8038     | 175 LF   | FURNISH AND INSTALL 4 IN. SCHEDULE 80, RIGID ELECTRICAL PVC CONDUIT BORED   |
| 8040     | 30 LF    | FURNISH AND INSTALL 3 IN. SCHEDULE 80, RIGID ELECTRICAL PVC CONDUIT TRENCHED  |
| 8041     | 30 LF    | FURNISH AND INSTALL 4 IN. SCHEDULE 80, RIGID ELECTRICAL PVC CONDUIT TRENCHED  |
| 8047     | 1 EA     | FURNISH AND INSTALL ELECTRICAL UTILITY SERVICE EQUIPMENT 120/240 VOLTS, 60 AMPS   |
| 8048     | 50 LF    | FURNISH AND INSTALL ELECTRICAL CABLE 1-CONDUCTOR NO. 4 A.W.G.-THHN/THWN   |
| 8054     | 4 EA     | FURNISH AND INSTALL ELECTRICAL HANDHOLE   |
| 8057     | 48 SF    | INSTALL OVERHEAD SIGN   |
| 8058     | 4 EA     | FURNISH AND INSTALL VIDEO DETECTION CAMERA  |
| 8062     | 1 EA     | FURNISH AND INSTALL 27 FT. MAST ARM POLE WITH TWIN 50 FT./50 FT. MAST ARMS  |
| 8069     | 710 LF   | FURNISH AND INSTALL 12-PAIR COMMUNICATION CABLE, SELF SUPPORTING (OVERHEAD)   |
| 8075     | 4 EA     | FURNISH AND INSTALL GROUND ROD 3/4 IN. DIAMETER X 10 FT. LENGTH   |
| 8080     | 24 EA    | FURNISH AND INSTALL 12 IN. VEHICULAR TRAFFIC SIGNAL HEAD SECTION CUT, CLEAN, GALVANIZE AND CAP TRAFFIC SIGNAL STRUCTURE |
| 8078     | 2 EA     | FURNISH AND INSTALL ELECTRICAL CABLE 5-CONDUCTOR (NO. 14 A.W.G.)  |
| 8085     | 100 LF   | FURNISH AND INSTALL ELECTRICAL CABLE 7-CONDUCTOR (NO. 14 A.W.G.)  |
| 8086     | 640 LF   | INSTALL CONTROLLER AND CABINET - BASE MOUNT   |
| 8096     | 1 EA     |   |

WIRING DIAGRAM



NOTE: DISCONNECT EXISTING OVERHEAD IC CABLE "N" FROM EXISTING POLE MOUNTED CONTROLLER AND ATTACH TO UTILITY POLE (BGE 293400) AND RE-ROUTE TO PROPOSED BASE MOUNTED CONTROLLER.

WIRING KEY

|     |  |
|-----|--|
| A-B | VIDEO DETECTION 200 FT. CONTROL CABLE                          |
| C-D | VIDEO DETECTION 100 FT. CONTROL CABLE                          |
| E-H | 5 CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)                   |
| I-L | 7 CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)                   |
| M   | 12-PAIR COMMUNICATION CABLE, SELF-SUPPORTING OVERHEAD          |
| N   | EXISTING 12-PAIR COMMUNICATION CABLE, SELF-SUPPORTING OVERHEAD |
| O   | STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)                |
| PES | MICRO-LOOP PROBE   |
| X   | PROPOSED ELECTRICAL SERVICE GROUND ROD                         |

EQUIPMENT LIST "A"

A. EQUIPMENT TO BE FURNISHED BY MSHA AND INSTALLED BY THE CONTRACTOR.

| ITEM NO. | QUANTITY | DESCRIPTION   |
|----------|----------|---|
| 9042     | 1 EA     | CONTROLLER ASC II WITH TELEMETRY  |
| 9044     | 1 EA     | BASE MOUNTED CABINET NEMA SIZE 6 WITH SYSTEM PACKAGE                        |
| 9086     | 1 EA     | VIDEO DETECTION INTERFACE EQUIPMENT 1-4 CAMERAS                             |
| 9571     | 44 SF    | ALUMINUM SHEET  |
|          |          | 1 EA D3-1 DUAL FACE SIGN (VAR. X 16") "TERRACE RD" RT. ARROW MAST ARM MOUNT |
|          |          | 1 EA D3-1 DUAL FACE SIGN (VAR. X 16") "TERRACE RD" LT. ARROW MAST ARM MOUNT |
|          |          | 1 EA D3-1 DUAL FACE SIGN (VAR. X 16") "MARIE AVE" RT. ARROW MAST ARM MOUNT  |
|          |          | 1 EA D3-1 DUAL FACE SIGN (VAR. X 16") "MARIE AVE" LT. ARROW MAST ARM MOUNT  |
|          |          | 2 EA D3-1 SINGLE FACE SIGN (VAR. X 16") "EASTERN BLVD" MAST ARM MOUNT       |

CONTACT PERSONS FOR DISTRICT 4 ARE AS FOLLOWS:

|  |   |
|--|---|
| MR. RANDALL SCOTT<br>ASSISTANT DISTRICT ENGINEER - TRAFFIC<br>(410) 321-2781   | MR. STEVE MARCISZEWSKI<br>ASSISTANT DISTRICT ENGINEER - MAINTENANCE<br>(410) 321-2761 |
| MS. SUENETTE POPE<br>ASSISTANT DISTRICT ENGINEER - UTILITIES<br>(410) 321-2841 |   |

CONTACTS FOR OFFICE OF TRAFFIC AND SAFETY

|  |  |
|--|--|
| MR. RICHARD DAFF, SR.<br>CHIEF, TRAFFIC OPERATIONS<br>(410) 787-7630                   | MR. EUGENE BAILEY<br>TEAM LEADER SIGN OPERATIONS<br>(410) 787-7676           |
| MR. ROBERT SNYDER<br>ASSISTANT DIVISION CHIEF,<br>TRAFFIC OPERATIONS<br>(410) 787-7631 | MS. DARLENE EIDE<br>SUPPLY OFFICE<br>SIGNAL SHOP WAREHOUSE<br>(410) 787-7668 |
| MR. ED RODENHIZER<br>TEAM LEADER SIGNAL OPERATIONS<br>(410) 787-7682                   |  |

EQUIPMENT LIST "C"

C. SHA FORCES SHALL REMOVE THE CONTROLLER AND ALL AUXILIARY EQUIPMENT FROM THE CONTROLLER CABINET. THE CABINET AND ALL OTHER MATERIALS TO BE REMOVED BY THE CONTRACTOR SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

**TRAFFIC CONCEPTS, INC.**  
325 Gambrills Road  
Suite E  
Gambrills, MD 21054  
(410) 923-7101

FAX (410) 923-6473

EMAIL: TRACONCEPT@AOL.COM

SHA# BA497A51/B51 Tod# AT604-03  
**SHA** MARYLAND DOT - STATE HIGHWAY ADMINISTRATION  
Office of Traffic & Safety  
TRAFFIC ENGINEERING DESIGN DIVISION  
GENERAL INFORMATION SHEET  
MD 150 (EASTERN BLVD) AND TERRACE RD/MARIE AVE  
(ESSEX, MD)

|                      |                              |                   |           |
|----------------------|------------------------------|-------------------|-----------|
| DRAWN BY: M.HOWELL   | F.A.P. NO. AC-STPG-000A(19)E | TS NO. 4356       | SHEET NO. |
| CHECKED BY: T.ZAYDEL | S.H.A. NO.                   |                   |           |
| SCALE: NONE          | COUNTY: BALTIMORE            | T.I.M.S. NO. 6347 |           |
| DATE: 9/14/2004      | LOG MILE: 03015002.70        |                   | 2 OF 2    |